

Appendix B

Critical Point Graphs

This Appendix contains graphs showing the general location of the critical point through the center of a space for each of the six classrooms. A more complete analysis across the entire space may be necessary to determine the critical point for system calibration. This point will likely be located closer to a side wall. A number of these spaces exhibit non-symmetry of the daylight aperture, which is why the center of the space was selected for these representative conditions.

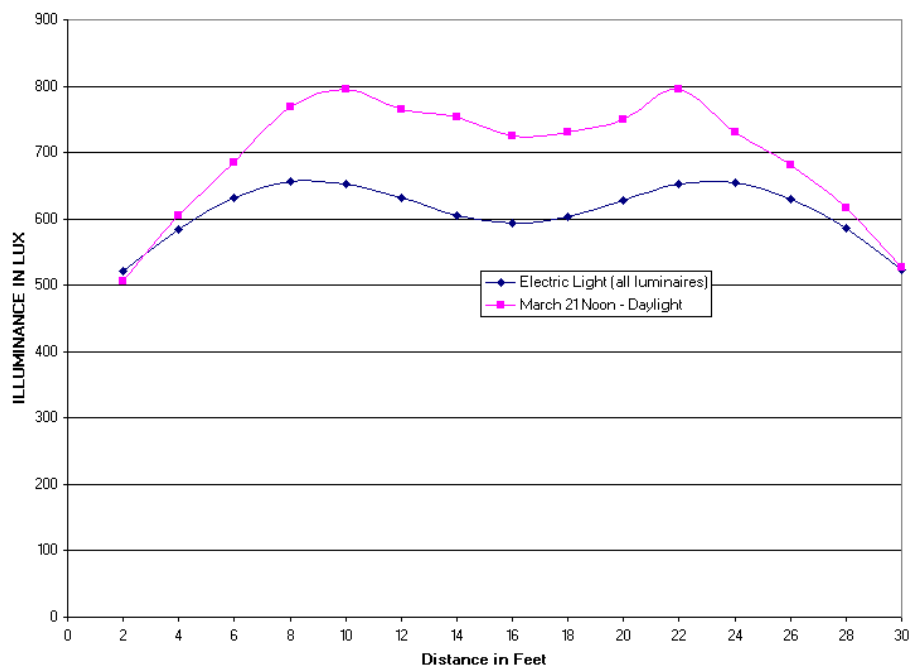


Figure B-1. Graph of daylight and electric light along a line through the center of the room for Classroom 1. All other daylight conditions will be a scaled multiple of the daylight condition shown. Since daylight falls off faster than the electric light along the space perimeter, the critical point is along the perimeter of the space. Another option is to not dim the perimeter luminaires. A study of wall luminances under both conditions is necessary to quantify which approach is better.

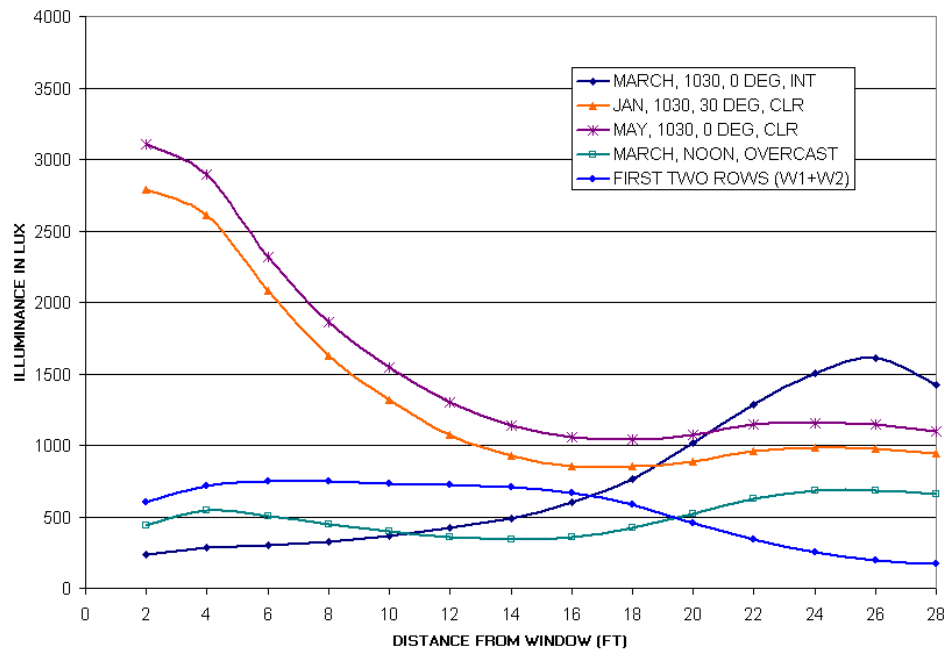


Figure B-2. Graph of daylight plus interior row of wrap-around luminaires along a line through the center of the room for Classroom 2 for analysis of the critical point. Illuminance from the first two rows of indirect luminaires is also shown. The critical point is about 14-18 ft. from the windows.

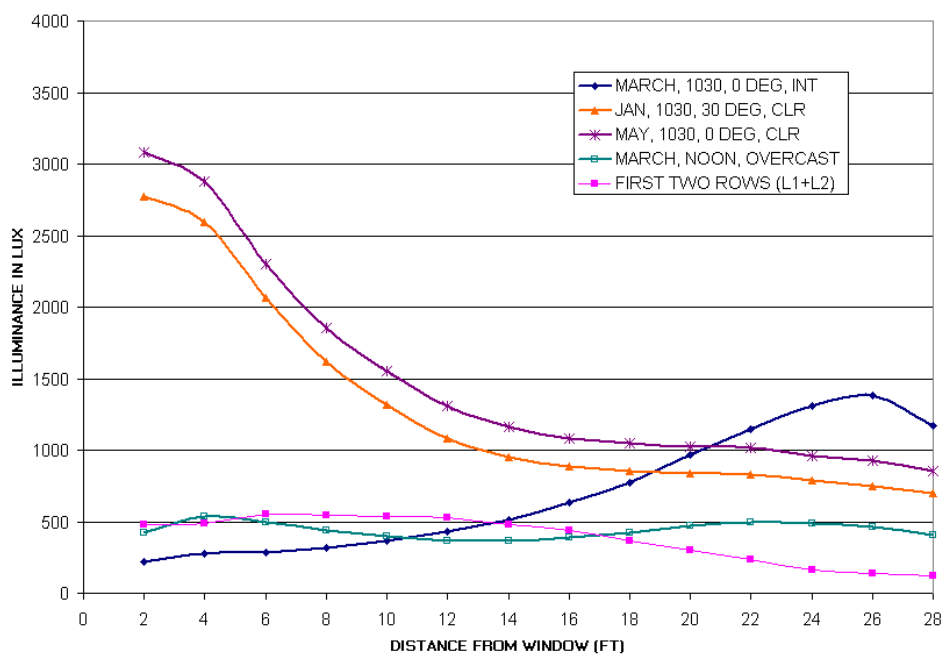


Figure B-3. Graph of daylight plus interior row of indirect luminaires along a line through the center of the room for Classroom 2 for analysis of the critical point. Illuminance from the first two rows of indirect luminaires is also shown. The critical point is about 14-16 ft. from the windows.

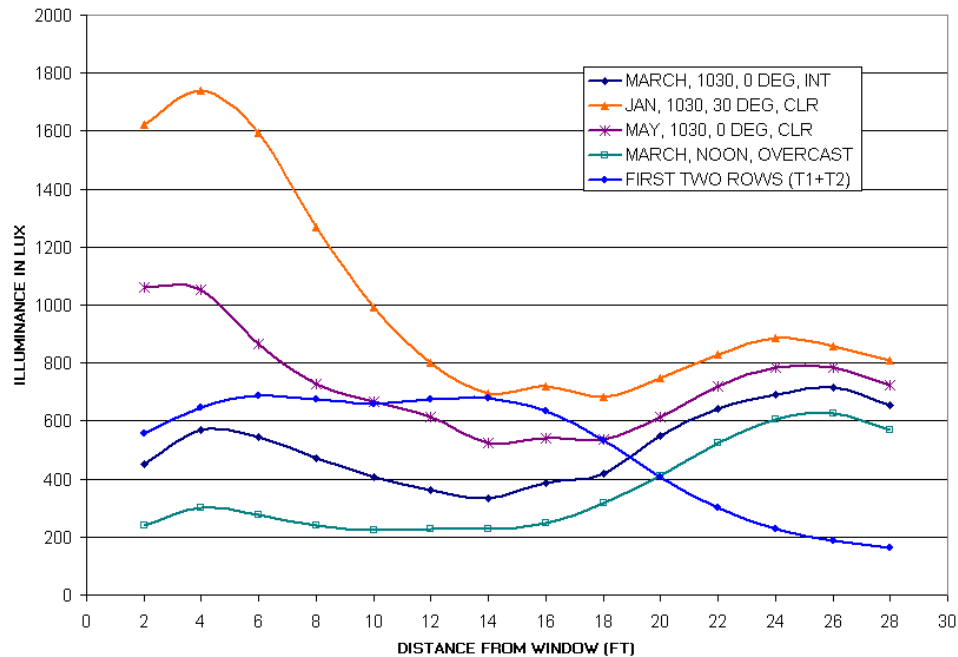


Figure B-4. Graph of daylight plus interior row of recessed parabolic troffers along a line through the center of the room for Classroom 3 for analysis of the critical point. Illuminance from the first two rows of indirect luminaires is also shown. The critical point is about 14-18 ft. from the windows.

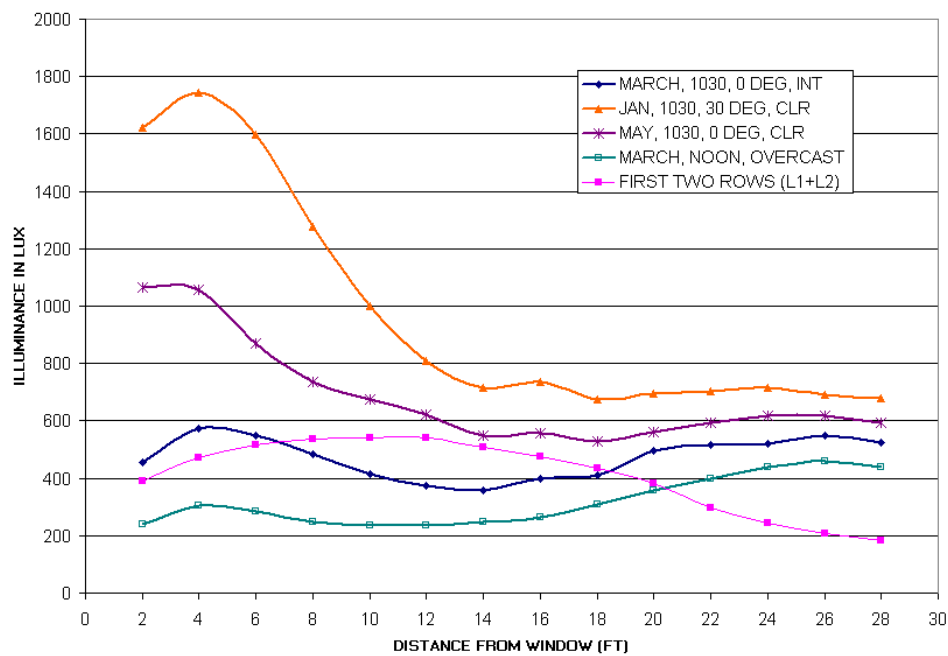


Figure B-5. Graph of daylight plus interior row of indirect luminaires along the center of the room for Classroom 3 for determining the approximate location of the critical point on this line. Illuminance from the first two rows of indirect luminaires is also shown. The critical point is about 14-18 ft. from the windows.

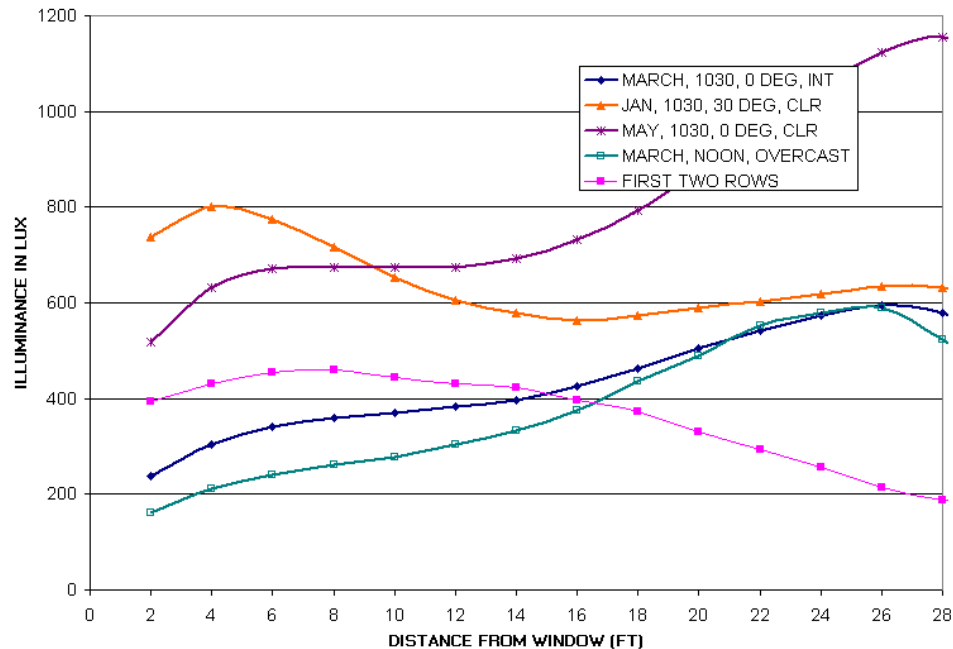


Figure B-6. Graph of daylight plus interior row of indirect luminaires through the center of the room for Classroom 4 for determining the approximate location of the critical point on this line. Illuminance from the first two rows of indirect luminaires is also shown. The solid wall in the center of the south-facing exterior wall places the critical point near the front wall. It would be desirable not to dim a luminaire in this zone and perform a new analysis.

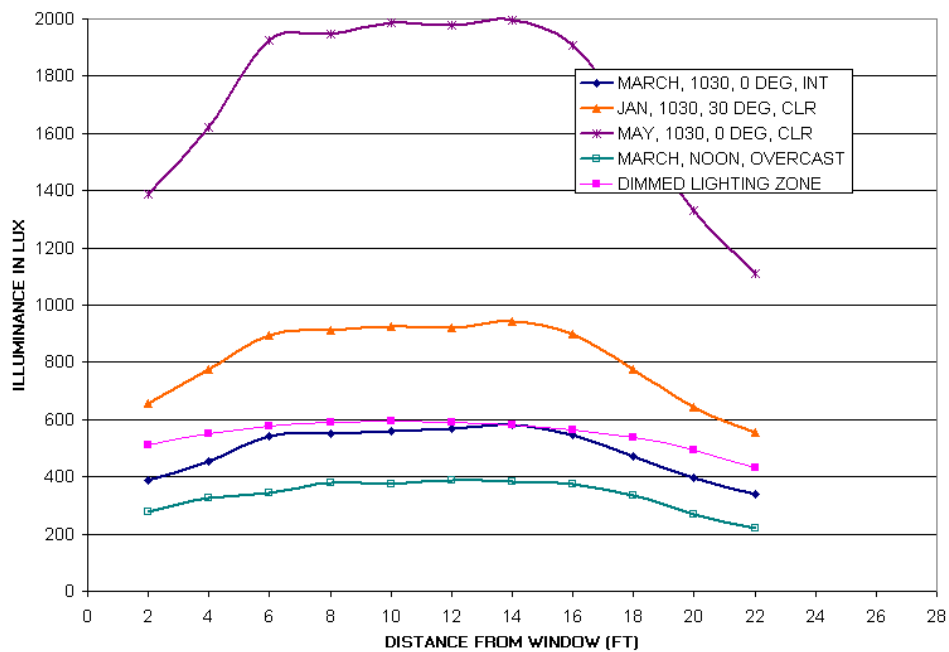


Figure B-7. Graph of daylight plus interior row of indirect luminaires through the center of the room for Classroom 6 for determining the approximate location of the critical point along this line. The contribution from the dimmed lighting zone (all luminaires) is also shown. The critical point lies near either the north or south exterior wall. Another option is to not dim the luminaires near the windows, in which case a new critical point analysis is required.